

# EXHIBIT 11

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS  
CENTRAL SECTION

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LOUIS ALBERGHINI, )  
v. )  
Plaintiff, )  
SIMONDS INDUSTRIES, INC., )  
Defendant. )  
\_\_\_\_\_  
)

) CIVIL ACTION NO. 04CV11024

**AFFIDAVIT OF CRAIG LAWSON MOORE**

I, CRAIG LAWSON MOORE, do hereby depose and state, under the pains and penalties of perjury, that the allegations made below are true to the best of my knowledge, information and belief.

1. My name is Craig Lawson Moore. I reside at 65B Hatfield Street in Northampton, Massachusetts.
2. I was retained in January of 2005 by the counsel of Simonds Industries, Inc. and asked to examine data and provide guidance with regard to statistical analysis related to allegations of age discrimination brought by Louis Alberghini against Simonds Industries Inc.
3. I was awarded a Bachelor of Science degree in Economics in 1967 from West Virginia University. I received a Master of Arts degree in Economics and a Doctor of Philosophy in Economics and Statistics from the Maxwell School of Citizenship and Public Affairs at Syracuse University in 1972.
4. I was a member of the faculty of the Isenberg School of Management at the University of Massachusetts at Amherst from September of 1972 until the end of 2003. I was a Full Professor with tenure. In 1997, the Board of Trustees of the University of Massachusetts bestowed the honorary title "University Professor of Political Economy" on me in recognition of my service to the Commonwealth of Massachusetts over my career. My primary teaching responsibilities included a required course in financial models for all finance majors. For 13 years I taught the required statistics course in the MBA program. In the past, I have also had responsibility for coordination and teaching the two-semester required statistics

sequence taken by all of the undergraduate majors and offered the required quantitative methods course to our Ph.D. candidates.

5. In addition to teaching for over the past 30 years, I have published 22 refereed articles in professional journals, dozens of government reports and funded studies, lectured to faculty and students at several well known foreign universities on extended visits in Sweden, Ireland, Poland, Netherlands, and Russia. I have received various awards including the Chancellor's University Advancement Award, the Outstanding Service Award for the Isenberg School of Management, and Professor of the Year by the Massachusetts Telecommunications Council in 1999.
6. I served as director of the MBA program at the Isenberg School of Management and, until fall of 1994, served as Chairman of the Department of Finance and Operations Management for 12 years. I served as Special Assistant to the President of the University of Massachusetts during two administrations. I am the founding editor of Massachusetts Benchmarks, a quarterly journal that analyzes and reports on the performance of the Massachusetts economy.
7. I retired from the University of Massachusetts at the end of 2003 and during 2004 served as the Chief Operating Officer of Marox Corporation, a manufacturing company, in Holyoke, Massachusetts. I am currently an executive consultant to Marox as well as a private management and legal consultant.
8. I am a member of the Business Advisory Council of the Federal Reserve Bank of Boston and a member of the Board of Directors of the Holyoke Hospital. I regularly testify before committees of the legislature regarding tax and economic policy. I have also served as a member of a committee advising the Secretary of the Department of Employment and Training for the Commonwealth of Massachusetts regarding employment forecasts and data.
9. I have testified as an expert witness for more than 30 years with regard to economic damages and statistical evidence. I have given testimony in more than 100 cases in federal and state courts. I have testified in Massachusetts, New York, Connecticut, New Hampshire, North Carolina, Pennsylvania, Rhode Island, Maine, and Vermont. I have been involved in cases in Illinois, Indiana, Washington, South Carolina, and Arizona that are ongoing or have settled prior to my testimony. I have acted as an expert for both plaintiffs and defendants in a variety of cases.
10. I have regularly taken part in seminars offered by Massachusetts Continuing Legal Education (M.C.L.E.) concerning economic damages and statistical evidence in employment discrimination cases. The seminar materials are subsequently published by M.C.L.E. for attorneys across the Commonwealth. In addition, I have made presentations before a number of legal organizations concerning the use and validity of statistical evidence including the National Employment Lawyers

Association, "Statistical Evidence in Employment Discrimination; The Trend Toward Multivariate Methods" (published in *Proceedings of the National Employment Lawyers Association*, Vol. I., pp. 444-454, San Diego, June 27, 1996), and the Massachusetts Bar Association, Committee on Employee Rights, Boston, February 7, 2000.

11. Any statistical evidence is only as good as the information used in the analysis. In particular, any statistical test used to detect the disparate impact of a company's policy, practice or action on individuals based on their age requires that all of the employees included in the analysis be reasonably similarly situated. The three factors that are used to judge job similarity are skill, effort and responsibility. All subjects included in the analysis must have reasonably similar skills as judged by their education, training, experience, licenses held or other relevant characteristics. Often job titles, salary grade and job descriptions are used to determine if an individual is similar to those being studied. Similar effort is judged on information included in performance reports or evaluations done in the ordinary course of doing business and other information regarding merit increases, promotions, awards for outstanding work, etc. Persons should be judged to be meeting reasonable performance standards. Similar responsibility is typically judged by job descriptions, the number of persons under the supervision of the subject, their authority with regard to expenditure or use of company funds and job title and salary. Thus, any analysis presented to the court must be based on comparisons of persons who were similarly situated at the time of a reduction in force (RIF).
12. The circumstances being examined must also lend themselves to analysis. In a classic RIF a company is making an effort to cut its costs by reducing the number of employees on its payroll. For example, if a company has 100 machinists and there is only enough work to keep 70 busy, then a company must let 30 go to bring costs and revenues in line. If the company selects the employees to be terminated based on their ages, this action would be discriminatory and violate the rights of any workers 40 or older who are protected under the law. The statistical evidence typically presented in such cases compares the age distribution of those terminated with the age distribution of those retained – e.g., the ages of the 30 machinists laid off compared with the 70 that are retained. The outcome of the test provides the probability that the difference between the age distributions of the two groups could have happened by chance. If the chances of this particular selection happening at random are less than 5 in 100, then the outcome of the test may be judged to be circumstantial evidence that may support a claim of discrimination.
13. The number of observations available to analyze must be large enough to provide a reliable result. To make a valid comparison of the average (mean) age of those terminated with the average age of those retained, for instance, the outcome of the statistical test relies on the assumption that the distribution of all possible sample means is *normally distributed*. If the sample size used in the analysis is too small,

this underlying assumption is not met and the analysis is unreliable. As the sample size decreases, the *Central Limit Theorem* - the mathematical basis for testing the difference between the means of two groups - begins to break down and the assumption that the outcome follows a normal distribution is no longer reliable.<sup>1</sup>

14. The most appropriate and useful statistical test for detecting possible evidence of age discrimination is a rank sum test; especially when the number of observations is small.<sup>2</sup> This is because it considers the entire age distribution of all similarly situated employees and is not limited by any arbitrary age boundaries. The manipulation of age categories can distort the outcome of any statistical test. In order to perform a fair and unbiased test, one must have the date of birth of each individual in the population of similarly situated employees who were considered for termination and an indication of which persons were terminated or retained.
15. Further, the age of 40 is not statistically significant; it only has legal significance. It is only useful in identifying which persons are in a protected class with regard to age. Age discrimination can take place within this protected class, outside of it or across the entire range of ages. From a statistical point of view, age discrimination is not defined or circumscribed in any way by the age of 40. Indeed, if the owner of a nightclub terminates a woman solely because she is over the age of 30 and replaces her with a younger woman, there is age discrimination. But, a woman who is over 30, but not yet 40, is not protected from such discrimination under federal or Massachusetts law. Likewise, if an employee who is 60 is terminated and intentionally replaced by another person who is younger, but over the age of 40, age discrimination has taken place, but can only be detected statistically with a test that considers the ages of all persons who are similarly situated and does not lump them into two categories of less than 40 and greater than or equal to 40.
16. In addition, one must consider the possibility that factors other than age explain the selection of particular individuals for termination. To do this a multivariate analysis must be conducted that examines the relative role of age in the selection process in relation to other factors – e.g., experience on the job or tenure with the company. If the employer used a ranking method to select employees for termination, the factors used and any weights applied to these factors must be revealed along with the data used for ranking each employee in the population. The methodology must be clearly spelled out.
17. This case is not typical because the plaintiff was terminated, rehired, and then terminated again by the defendant.<sup>3</sup> The initial termination was not part of a “RIF”

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<sup>1</sup> For a complete treatment of this subject see M Orkin and R. Drogin, *Vital Statistics*, 38, (1975).

<sup>2</sup> For a complete discussion of the reasons why, see Gregory L. Harper, “Statistics as Evidence of Age Discrimination, *The Hastings Law Journal*, Vol. 32, No. 4, March 1981, pp. 1347 – 1375.

<sup>3</sup> The plaintiff’s claim of unlawful age discrimination in this case is based on his May 2001 termination - not his January 2000 termination.

in the classic sense, but was an effort by the management of Simonds to eliminate redundant or unnecessary positions in the company. At the time of his initial lay off, he was a Manufacturing Manager and the position was eliminated as part of Simond's management restructuring. Approximately a month later, the plaintiff was rehired in the position of "Project Engineer" and continued in that capacity until May of 2001 when that position was eliminated. It is my understanding that no one was retained as a Project Engineer at the time and no one was subsequently hired as a Project Engineer by Simonds. It is also my understanding that no one was retained or subsequently hired by Simonds to carry out the duties of a Project Engineer. In cases where there is a claim of age discrimination, a comparison is typically made between the age distributions of those similarly situated employees that were terminated and those who were retained to establish if there is any statistical evidence that would support the claim. There can be no comparison between the age distributions of those retained and those terminated in this case because no similarly situated employees were retained.

18. I have reviewed the report of George Cobb in this case. In that report he makes several serious and fatal errors. Dr. Cobb states in his report: "...the ideal analysis would compare large groups of employees with exactly the same qualifications, responsibilities, and seniority, all reporting to the same person."<sup>4</sup> His actual analysis is not reasonably close to this ideal analysis.
19. First, he selects three different groups of people whom he identifies as potentially similarly situated. Obviously he isn't sure because he uses three different possible combinations of people who were all terminated. Closer examination reveals that none of these groups are actually similarly situated. He selected them by first eliminating all those with a job code of "EX" and presumably were executives above the level of the plaintiff. Then, he eliminates all those with a job code of 100 or greater because presumably they are not managers. He then, by process of elimination, decides that everyone left in the middle is similarly situated with the plaintiff and invents a category called "managers and professionals." There is no evidence that the company ever gave these persons that designation. If Dr. Cobb had examined the context of the action that the company took, or examined job descriptions, or reviewed the duties and responsibilities of the plaintiff and compared them to others in the company, he would have clearly seen that all of the persons in this category that he created called "managers and professionals" were not similarly situated. Employees in this category had very different duties and responsibilities, their earnings were not similar and their job titles were not the same. The plaintiff was a "Project Engineer". Dr. Cobb has lumped him in with a "Quality Assurance Manager", a "Principal Engineer", a "Product Manager", a "Senior Account Manager", a "Plant Operations Manager", a "Materials Coordinator", a "Manager of Corporate Accounting" and a "Unit Manager". Dr. Cobb's lack of experience in business, and in manufacturing in particular, leads him

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<sup>4</sup> Paragraph 4, page 2.

to the conclusion that these individuals had similar responsibilities, duties or skills. As the Chief Operating Officer of a manufacturing company, and a Professor in the Isenberg School of Management for over 30 years, it is clear to me that only one or two people in this pool are similar to the plaintiff. A Senior Account Manager, for example, is in sales while the plaintiff is an engineer. A Manager of Corporate Accounting has a completely different role in the company and a very different set of skills and training than the plaintiff. The group of terminated employees selected by Dr. Cobb is clearly not appropriate; they are clearly not close to being similarly situated.

20. Second, the number of employees that he does select for his analysis is too small to provide a reliable result. To yield a reliable statistical outcome, any test that involves so few people, even if they had been an appropriate group of similarly situated employees, has to be reasonably large. Dr. Cobb presents three versions of an analysis that compares the average age of those terminated with the average age of those hired following the RIF. He goes to some pains to justify the small sample sizes that range from 15 to 19 persons, but fails to point out that the average age is being calculated for 7, 8, or 9 persons terminated as compared with the balance of the sample that are being hired. Not only is the total number of observations unreliable, but when one is basing an analysis on the average of so few persons as 7 to 9, only one or two observations in either group could skew the average age of the group and result in a misleading outcome.<sup>5</sup> Further, the courts have recognized that statistics based on a small sample size can be misleading and has said that samples of as few as 15 are not reliable.<sup>6</sup>
21. Third, despite the fact that this was a company-wide reorganization that involved related terminations across multiple plants (two of which were closed), Dr. Cobb limited his comparison only to those persons employed in the Fitchburg facility. Even if this had been an actual RIF, he would have had to compare those terminated and retained across the entire company and not just in Fitchburg. This is especially important when the number of persons in the same position is so small.
22. Fourth, because there were no retained employees to compare with those terminated, Dr. Cobb made a comparison with persons hired following the layoffs – people who were not hired for the same job that the plaintiff had held (i.e., Project Engineer) in an effort to offer some statistical comparison. His analysis is simply moot. It is not relevant even if the average age of those subsequently hired was less than those laid off. To be of any value, an analysis should be done on the pool of employees considered for termination at the time of a RIF and compare the ages of those retained with those terminated. Subsequent hires, even if they were

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<sup>5</sup> It is also why the most reliable statistical test is a Rank Sum test as it compares the entire distribution of all ages in each group rather than their averages and cannot be affected by a few extreme values.

<sup>6</sup> See *LeBlanc*, 6 F.3d at 849; *Fallis*, 944 F.2d at 746; and *Soria*, 704 F2d at 995.

considered as replacements for the same or reasonably similar jobs that were eliminated, would have to include the entire pool of those individuals who applied for the positions and not just those selected. A complete analysis would examine the age distributions of those considered and those selected. Dr. Cobb never even raises the question of the hiring pool or selection process with regard to the age of people considered. He also never mentions or considers the fact that the plaintiff was re-hired following his initial termination and his analysis includes a period in which the plaintiff was actually employed by Simonds. This is clearly inappropriate.

23. Fifth, Dr. Cobb never makes any effort to analyze any other factors that could explain the pattern of selection of those terminated. He confined his efforts to only one variable; the one that was in contention by the plaintiff – i.e., age.
24. Finally, the time frame of Dr. Cobb's analysis is not appropriate. He uses a time period starting on the date when the plaintiff was terminated through the date of the hiring of the last person in his analysis. The period of his analysis is contrived. A proper analysis of a RIF uses a time frame that clearly circumscribes carrying out the company's policy. Dr. Cobb extended the time so he could consider people hired as well as laid off.
25. In summary, Dr. Cobb states in his report: "...the ideal analysis would compare large groups of employees with exactly the same qualifications, responsibilities, and seniority, all reporting to the same person." His actual analysis involved the comparison of the average age of a very small group of employees with significantly different qualifications and responsibilities with the average age of persons subsequently hired for different duties. It is clear to me that there is no statistical analysis that is actually appropriate in this case. The analysis offered by Dr. Cobb is not relevant to the case at hand as he uses employees who are not in the same job and compares them with people hired for different jobs rather than with persons in the same job who were not terminated. Further, he limited his examination of the data to the Fitchburg facility and ignored the fact that the company reorganization and resulting layoffs affected the entire company during the same time frame. He made no effort to examine other factors that may have explained the pattern of terminations. Finally, he uses a time period that is unreasonably long in an effort to contrive some comparison and create a sample that is large enough to offer some validity. His method of analysis is not appropriate in my view and it does not meet the standards set down in *Daubert*.<sup>7</sup> Dr. Cobb's report is irrelevant, prejudicial and misleading in my opinion.

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<sup>7</sup> *Daubert v. Merrell Dow Pharmaceuticals* (92-102), 509 U.S. 579 (1993).

Signed under the pains and penalties of  
perjury the 14<sup>th</sup> day of February, 2005



Craig Lawson Moore, Ph.D.